

(12) United States Patent

Kuehnle et al.

US 9,637,064 B1 (10) Patent No.: (45) Date of Patent: May 2, 2017

(54) APPARATUS AND METHOD FOR RESTORING A CAMERA MOUNTING TO A CALIBRATED POSITION

(71) Applicant: Bendix Commercial Vehicle Systems LLC, Elyria, OH (US)

(72) Inventors: Andreas U Kuehnle, Villa Park, CA (US); Marton G Gyori, Budapest (HU); Hans M Molin, Mission Viejo, CA (US); Thomas S Legeza, Olmsted Township, OH (US)

(73) Assignee: Bendix Commercial Vehicle Systems LLC, Elyria, OH (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35

U.S.C. 154(b) by 0 days.

(21) Appl. No.: 14/882,776

Filed: Oct. 14, 2015 (22)

(51) **Int. Cl.** B60R 11/04 (2006.01)G03B 17/56 (2006.01)H04N 5/225 (2006.01)B60R 11/00 (2006.01)

(52) U.S. Cl. CPC B60R 11/04 (2013.01); G03B 17/561 (2013.01); H04N 5/2252 (2013.01); H04N 5/2253 (2013.01); B60R 2011/004 (2013.01); B60R 2011/0059 (2013.01)

(58) Field of Classification Search See application file for complete search history.

(56)References Cited

U.S. PATENT DOCUMENTS

4,244,140 A 4,658,335 A		
		Vasconi F16M 11/10
6,364,496 B1*	4/2002	248/276.1 Boddy B60R 1/072 248/476
	(Con	tinued)

FOREIGN PATENT DOCUMENTS

EP	1243793 A2	9/2002	
EP	1251381 A2	10/2002	
	(Continued)		

OTHER PUBLICATIONS

Johnson Matthey, "Nitinol Shape Setting," webpage, http://jmmedical.com/resources/251/Nitinol-Shape-Setting.html, printed Aug. 21, 2015, Johnson Matthey Medical Components.

(Continued)

Primary Examiner — Clayton E LaBalle Assistant Examiner — Linda B Smith (74) Attorney, Agent, or Firm — Cheryl L. Greenly; Brian E. Kondas; Eugene E. Clair

(57)ABSTRACT

Various examples of an apparatus for mounting a camera on a vehicle are disclosed. An apparatus comprises a first portion of a first material with a first end configured for attaching to a camera and a second end configured for mounting to a vehicle. The apparatus is configured to maintain the camera in a substantially calibrated position. A second portion of a second material is coupled to the first portion, wherein the second material is capable of deforming

(Continued)

